OBSERVATIONS ON A SALMON RIVER

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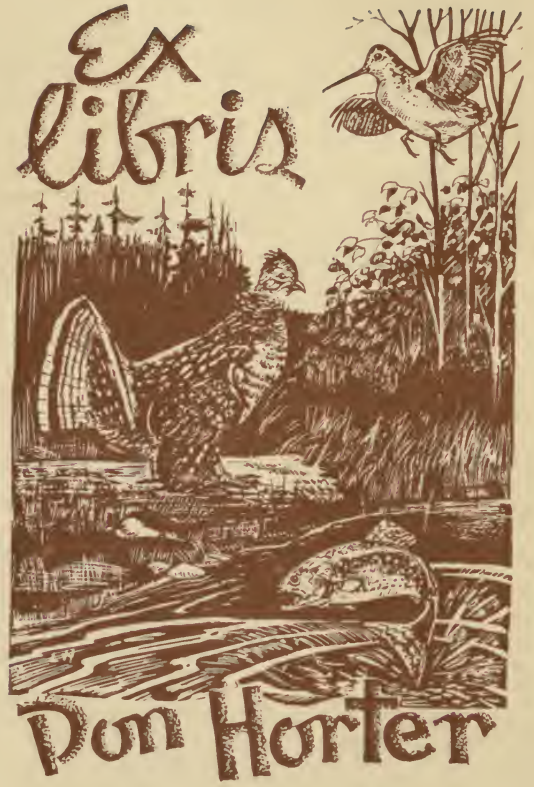

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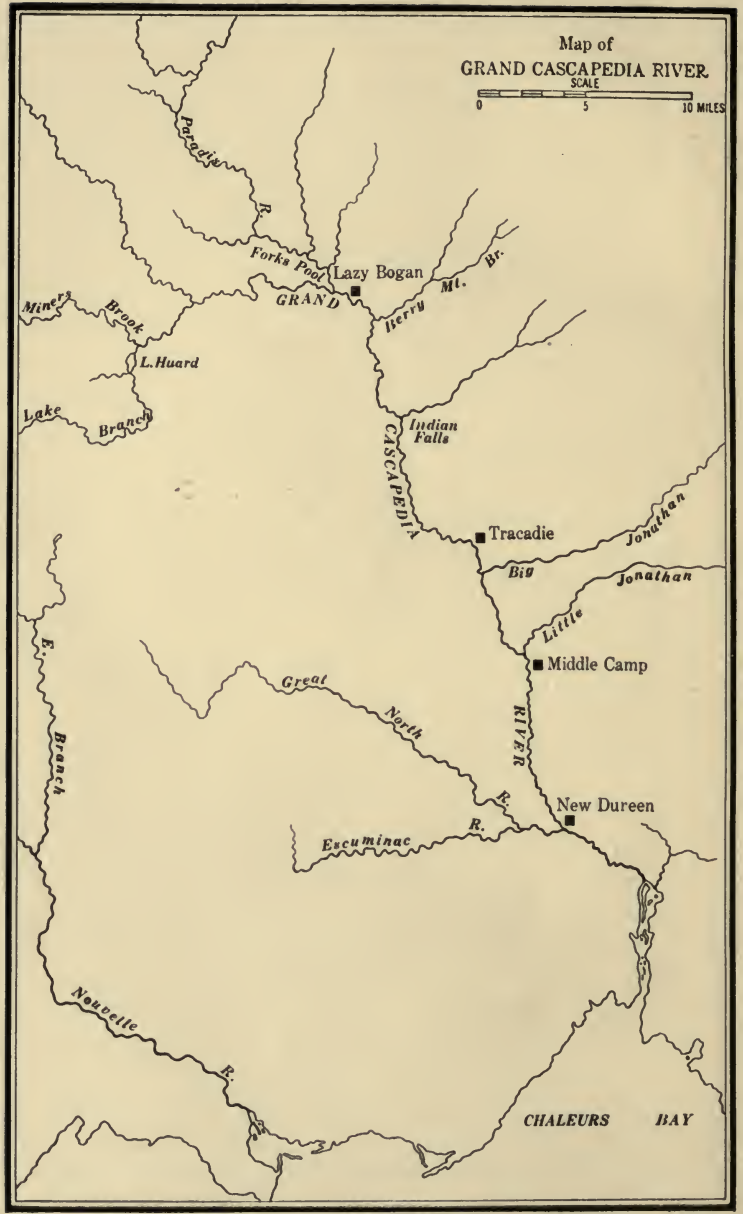
Map of
GRAND CASCAPEDIA RIVER
SCALE
0
5
10 MILES
Paradis
R.
Forks Pool
Lazy Bogan
GRAND
Mt.
Br.
Miners
Brook
L. Huard
Lake
Branch
Indian
Falls
CASCAPEDIA
Tracadie
Jonathan
Big
Jonathan
Little
Middle Camp
E.
Branch
Great
North
R.
RIVER
New Dureen
Excuminac
R.
Nouvelle
R.
CHALEURS
BAY

OBSERVATIONS ON A SALMON RIVER

BY

F. GRAY GRISWOLD

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ANGLING

THE *charms of angling are anticipation and solitude. It takes much time and practice to become proficient, and you must be keen and quick and have great delicacy of touch to become a good angler. It cultivates quickness, self-control, and above all things, patience.*

Angling is a sporting fight between you and the fish and, as no two families of fishes fight alike, you are matching your brains and cleverness against the ingenuity of the fish.

It also cultivates a habit of observation which is so necessary if one would enjoy life and nature, and it takes one to beautiful rivers at nature's most attractive season when there is so much that is interesting to observe both in bird and in plant life.

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The solitude on the Canadian rivers is broken by the pleasant sound of running waters, the note of a kingfisher or the drumming of a partridge, and the typical clinking sound of iron-shod canoe poles as a canoe is driven up stream.

THE GRAND CASCAPEDIA RIVER

"GREAT FISH ARE CAUGHT IN GREAT WATERS"

THE GRAND CASCAPEDIA RIVER*

IN the far northern wilderness of the Province of Quebec are the sources of two streams which form the headwaters of the Grand Cascapedia river. The Lake Branch rises in Lake Cascapedia and flows from this lake a distance of eighteen miles before joining its companion the Salmon Branch, whose source is many miles farther north.

The meeting of these two streams at the celebrated Forks Pool is the beginning of the main stream of the Grand Cascapedia river.

From Lazy Bogan, which is a short distance below the Forks Pool, the river passes through a most beautiful mountainous country; it is fed by numerous brooks and

* The Indian name from which Cascapedia is derived is Gascapegiag and means Wide River.

its banks are covered by a thick virgin forest of fir trees and birches. It is a fast-running stream with many rapids but no falls and is about eighty miles in length from its source to where it empties into the Bay of Chaleurs.

This bay was named by Cartier who welcomed its genial climate after his voyage through the ice-fields.

There is a road along the left bank of the river for fifty miles which was constructed in part by the Cascapedia Club in 1914 in order to preserve the spawning beds from horse-drawn scows employed in taking provisions to the lumber camps.

The upper river and its branches are the spawning grounds of countless salmon and sea-trout, for the Grand Cascapedia is justly celebrated for its salmon fishing and holds the record for the heaviest average weight of fish among the Canadian rivers.

The salmon spawn during the latter part of October and early in November and the spawning grounds are chiefly above Middle

Camp, at Lazy Bogan, and in the Lake and Salmon branches.

The river was fished in early days by numerous anglers, among the number being President Arthur, who was a keen fisherman.

From 1878–93 the fishing was at the disposal of the succeeding Governors-General of Canada — namely, that part of the water which is now leased by the Cascapedia Club, for the land and fishing rights of the first fifteen miles of the Grand Cascapedia belong to individual owners.

It was fished by the Marquis of Lorne from 1878–83, by Lord Lansdowne from 1883–88, and by Lord Stanley from 1888–93. Lord Aberdeen succeeded Lord Stanley as Governor-General and, not being an angler, renounced all claim to the fishing.

In 1893 the fishing rights and three chains of woodland on each side of the river were leased to the Cascapedia Club for a term of years.

The Club consisted of the following original members:

JOHN L. CADWALADER
E. W. DAVIS
R. G. DUNN
HENRY W. DE FOREST
H. B. HOLLINS
JOHN S. KENNEDY
DR. S. WEIR MITCHELL
PHILIP SCHUYLER
J. J. VAN ALEN
W. K. VANDERBILT

The Club was limited to ten members.

The following members have been elected since 1894:

F. G. BOURNE
HENRY C. FRICK
ROBERT W. DE FOREST, Member, 1921
DR. CHARLES MCBURNEY ————————
WILLIAM DE F. HAYNES, Member, 1921
EDWARD W. SHELDON, ————————
HAMILTON F. KEAN, Member, 1921
W. EMLEN ROOSEVELT, " "
F. GRAY GRISWOLD, " "
CHILDS FRICK, " "
GEORGE GIBBS, " "

In 1915 the membership was reduced to seven members.

NEW DERREEN

The main Club House is at New Derreen,* so named by Lord Lansdowne who caused the first house to be built at this chosen spot and named it after his sporting estate in Ireland.

Eight miles above New Derreen is a three-rod station called Middle Camp, and at sixteen miles there is accommodation for two anglers at Tracadie.

Lazy Bogan, the last camp on the river, is twenty odd miles farther up the stream.

The Club has over forty miles of fishing and more than fifty salmon pools.

Club Rules

DIVISION OF WATER

At New Derreen and Middle Camp the number of rods shall not exceed four at each station, and at Tracadie, shall not exceed two.

As between New Derreen and Middle Camp, when both are occupied, and as between Middle Camp and Tracadie, when both are occupied, the

* Gaelic for Little Oak Wood.

water shall be apportioned as follows: New Derreen, from the lower Club line to the head of Dimock's pool; Middle Camp, from the latter point to the head of Big Jonathan; Tracadie, all above, to the foot of Indian Falls.

Any member shall have the right to fish for three consecutive days at any station not fully occupied, at the expiration of which any other member shall have the right to occupy the same for a like period of three days. A member who shall not have previously fished a station shall in all cases have preference over one having already fished such station.

The fishing at each station shall be divided by the members present, and the first order of choice shall be determined by lot, after which, the fishing shall be taken in rotation, the occupants of the upper pools of the station moving on the succeeding day to the pools next below.

All drawing for or distribution of water shall occur at the camp or club house located thereon.

LIMIT OF CATCH

No member shall fish for salmon on Club waters more than thirty days, or parts of days, during any one fishing season, nor shall any member take or kill more than seventy-five salmon in any season, nor more than eight salmon in any one day.

Members will be allowed to take only twelve (12) fish above Berry Mountain Brook.

Fish beached or landed by gaff shall count as fish taken, whether subsequently released or not.

GUESTS

After June 30th a member shall have the right to invite a guest, and divide his fishing with such guest, subject to the following restrictions: One guest only can be so invited in any one season, whose stay shall be limited to the member's stay. Member and guest must in all cases occupy the same station and shall be allowed to fish with one rod and from one boat only. All fish taken by the guest shall be counted as part of the member's score for both season and daily limit.

If any other member or members are present at any camp, a member and his guest shall occupy one room only in case the remaining rooms are required to provide a room for each member.

SALMON POOLS

"PASSIONS ARE LIKENED BEST TO POOLS AND
STREAMS;
THE SHALLOWS MURMUR, BUT THE DEEP
ARE DUMB."

SALMON POOLS

New Derreen

Lower Water	*Upper Water*
House	Maple
Tent	Limestone
Rock	Upper Jam Rapids
Ledge	Lower Jam Rapids
Duthies	Dimock's
Jack the Sailor	
Dewinton's	
Little Jack the Sailor	
Slide	
Big Curly	
Hole in the Wall	
Anson's	

Middle Camp

Lower Water	*Upper Water*
"424" (One Half)	"424" (One Half)
Big Picot	Moransay
Little Picot	Doctor
Turner's Brook	Commodore
Stanley's	Van Alen
Big Camp	Captain
Little Camp	Joe Martin
	Patterson's
	Little Jonathan
	Big Jonathan

TRACADIE

Lower Water	*Upper Water*
Tracadie	McGregor's
Little Tracadie	Josh's Brook
Big John	Charlie Valley (Charles Valois)
Button Rapids	Lady Florence (Anson)
Long Reach	Murdock's
Lost Channel	

ABOVE THE "FALLS"

Head of Falls
Three Islands
Big Berry Mountain
Jerome Farms
Lazy Bogan
House
Parson's
Forks

The first authentic record of the salmon fishing on the Grand Cascapedia is of the season of 1879.

The Hon. C. Ellis, L. Iveson, and Captain G. A. Percy fished from June 9th to August 15th and Captain Fane, R. N., and Captain Drummond, R. N., from July 25th to August 1st.

MIDDLE CAMP

Their total score was 647 salmon that weighed 16,288 pounds; 135 of these fish weighed 30 pounds each, or more.

Captain Percy had the best individual day's fishing: 17 fish weighing 465 pounds or an average of 27 pounds.

The party took 6 fish of over 40 pounds each.

THE SCORE

	Fish	Pounds	Fish 30 Pounds and over
ELLIS	269	6714	53
IVESON	216	5483	48
PERCY	137	3451	27
FANE	12	305	4
DRUMMOND ...	13	335	3
	647	16,288	135

Lord Lansdowne and his friends had the good luck to take 1245 salmon weighing 29,188 pounds in four seasons (1884–87), an average of 23½ pounds; 210 of these fish weighed 30 pounds and over and the heaviest weighed 45 pounds.

Mr. R. G. Dunn took a 54-pound salmon on June 20, 1886, 4½ feet in length, 28 inches girth, with a tail spread of 14 inches.

On June 13, 1892, Hon. Victor Stanley landed a 53-pound salmon; and in 1901 Mr. E. W. Davis was credited with a fish weighing 52 pounds.

There was a 54-pound salmon taken in 1920 in the Judge's pool on Mr. Douglas' water, below New Derreen, by Mr. Nadeau.

I had a good day on the New Moon in June, 1920 — eight fish weighing 228 pounds, an average of 28½ pounds.

33, 35, 32, 27, 27, 26, 26, 22 pounds.

There is no doubt that the scores of early days could be duplicated now if as in those days there were no restraint on fishing the upper waters.

During the sixteen years from 1894 to 1909, 3440 salmon were taken on the Club waters.

Of these fish 64 weighed 40 pounds or more; 595 fish weighed from 30 to 40 pounds each and 141 tipped the scales at

under 17 pounds. The heaviest fish weighed 52 pounds.

	Number	40 Lbs. and over	30 to 40 Lbs.	Under 17 Lbs.	Average	Weight in pounds	Heaviest Fish pounds
1910	223	4	42	9	24	5484	43
1911	141	5	38	29	23	3287	45
1912	151	3	19	10	23	3611	46
1913	162	1	32	19	23	3755	43
1914	149	4	23	17	23	3709	47
1915	186	0	15	35	25	3781	34
1916	337	7	65	52	20	7515	47
1917	390	1	89	51	22	8679	40
1918	336	8	92	41	23	7866	43
1919	209	1	42	15	23	4927	39
Total	2284	34	457	278	23	52,614	

1920. 248 salmon, 3 fish over 40 pounds.
60 fish 30 pounds and over.
26 fish under 17 pounds.
Heaviest fish 43 pounds.
Weight 6009 pounds. Average 24 pounds.

COMPARATIVE STATEMENT OF ESTIMATES OF FISH ON SPAWNING BEDS

	1914	*1915*	*1916*	*1917*	*1918*	*1919*	*1920*	*1921*
Lake Branch	175	323	304	475	Water discolored — No report	578	Wm. O'Neil ill and unable to make usual count of salmon	389
Salmon Branch	415	392	631	625		725		700
Forks to Falls	241	210	562	485		733		577
Falls to Tracadie	80	37	125	135		72		141
Tracadie to Middle Camp	239	175	132	105		243		240
Middle Camp to Club Line	124	203	217	252		275		265
Club Line to R. R. Bridge	123	92	115	75		86		57
Totals	1397	1432	2086	2152		2712		2369

GAME FISH

"MEN LIVE LIKE FISHES; THE GREAT ONES DEVOUR THE SMALL"

GAME FISH

FROM the standpoint of a fisherman I divide game fish into two classes namely, the forked-tailed and the square-tailed fishes.

The former travel great distances, swim rapidly, and are nearly all surface feeders and strong surface fighters.

The latter dwell on the bottom, are bottom feeders, and generally have a local habitat.

The forked tail has been given to the swordfish, tarpon, bonefish, bluefish, spearfish, dolphin, and all the pampano, herring, and mackerel tribes.

The tail is forked for the purpose of leaving a free space directly behind the axis of the body where the stream-lines following the sides of the moving fish converge. This

means ease and speed in swimming. A round or square tail is a drag for it fills this space.

The whales and porpoises have horizontal forked tails which they move up and down, for they rise to the surface when swimming.

Among the square-tailed fish I classify the bass family, the snappers and groupers, and the salmon family.

The square-tailed fish are slow swimmers and seldom travel far. Those that do, such as the drumfish and the striped bass, proceed at a leisurely pace. The latter during their yearly pilgrimages travel and feed so close inshore that it has been possible by netting to almost destroy what was at one time one of the most numerous of our game fishes.

The forked-tail fish journey great distances and often at a high rate of speed, seeking food or a change of water temperature, and do not hibernate as do some of the square-tailed fish.

The square tail of the salmon is one proof,

TRACADIE

to my mind, that when they leave a river they do not journey far but dwell in the deep sea near the mouth of their summer home.

Although the seafood of the salmon when off the mouth of a river is known to be herring and the like, their square tails would lead one to believe that they are bottom feeders and that they feed leisurely and well, which would account for the fresh-run fish's superabundance of fat.

According to Alexander Agassiz the pelagic animals are very short-lived but they reproduce marvelously. Some of the Copepods, which are minute crustaceans, have no less than thirty generations in three weeks.

As they are constantly dying there is a shower of food falling over the ocean floor which joins the food that comes from the littoral regions. It is stated that there is a thick broth of food over wide areas of sea bottom which can readily be obtained with very little effort on the part of the fishes.

The progress of large bodies of salmon in the sea, judged by the catches in nets at different stations, is said to be four or five miles a day. They only travel in the daytime; no salmon are taken in the nets at night.

After entering the river, these conditions are changed, for then the salmon travel mostly by night.

Previous to entering the pure fresh water they remain for some time in the estuaries, moving in and out on the tides and becoming gradually acclimatized to the change from salt to fresh water.

A considerable portion of the salmon that spawn before the rivers freeze return to the sea the same autumn, but a large number winter in the rivers and come down stream in the spring as kelts or "slinks."

The French Canadians call these fish *lingards* — a corruption of "long gars."

The kelts that descend the rivers in the autumn are dark in colour and slimy, whereas those that leave in the spring are bright fish.

It is supposed that the grilse are three or four years old and that their rate of growth after that period is from four to six pounds a year.

A salmon was caught at West Baldwins half a mile from Channel Head, Newfoundland, by Louis Sheaves on June 5, 1919, with a silver tag attached to its dorsal fin marked A1124. The fish when caught measured 40 inches in length, 23 inches in girth and weighed 26 pounds. R. Mosdell, the station master at Port aux Basques, obtained the fin tag and submitted it to the Game and Inland Fisheries Board for inquiry as to where the fish had been liberated.

On July 15 he received a message from the Game Board stating that the fish was liberated from the salmon hatchery at Margarie, Nova Scotia, November, 1917; at that time it measured 34 inches in length and weighed 12 pounds.

This dislodges the theory that salmon always frequent the same water yearly, and

also shows a remarkable growth within the given period.

This fish in nineteen months grew in length 6 inches, being an average of almost an inch every three months, and gained an average of three-quarters of a pound in weight per month for the same period.

THE AGE OF SALMON

IT IS SAID THAT WHEN FISH ARE TAKEN FROM THE WATERS AND ALLOWED TO DIE THAT THEY ALL DIE DRUNK. THEIR BLOOD BECOMES INTOXICATED BY THE PREPONDERANCE OF OXYGEN IN THE AIR.

WILL THE PROHIBITIONISTS EVENTUALLY FORBID FISHING WHEN THIS FACT BECOMES KNOWN?

THE AGE OF SALMON

ACCORDING to Malloch it is easy not only to tell the age of an Atlantic salmon by its scales but also to follow its journeyings and occupations through life.

As the rings on a cross-section of a tree show the tree's yearly growth, so do the rings on a salmon's scale determine the age of a salmon.

The scales of a parr hatched in March when a year old have 16 rings, and 32 rings can be counted after the expiration of another twelvemonth.

Two months or so later the parr becomes a smolt and goes down to the sea and may return the following May or June as a grilse with 52 rings, more or less.

If the rings on a fish's scales number less than 58 it is a grilse, if more than that number show it is a salmon.

All the grilse and salmon that enter a river are supposed to spawn and those that remain long in fresh water have the edges of their scales broken off. When the kelt-grilse and the kelt-salmon return to the sea and begin to feed, a ring forms around these broken parts and these rings increase in number according to the time the fish remain in the sea.

In the Grand Cascapedia River a grilse is seldom seen or taken. This may account for the great average size of the salmon in that river. These fish may pass their grilse term of life in the sea, where, with good food and without the fatigue of spawning, they grow in weight accordingly, and enter the river later on as full-fledged salmon. Few salmon are taken in the Grand Cascapedia under 20 pounds in weight, and it was there that Dr. S. Weir Mitchell took in 1896 40 salmon that averaged 28 pounds.

In order to determine the time the salmon remain in the sea it is necessary to count the rings from the broken or uneven lines out-

TRACADIE

wards. No rings are formed on the scales in fresh water.

The great majority of salmon are said to spawn but once although some spawn twice or more often.

It is claimed that salmon, during the period of their stay in a river and after having fulfilled their mission, lose twenty-five per cent of their weight.

The very large salmon, those from 40 to 50 pounds, are cock-fish, generally old bachelors, gourmets and gourmands that have remained in the sea where the food is good and plentiful rather than undertake the up-stream struggle with perhaps little or no food, and with domestic troubles awaiting them at their journey's end.

For example, the 61-pound cock-salmon taken in the Tay in Scotland on July 13th, 1902, proved by its scales to be 7 years and 2 months old, and the scales also showed that it was this salmon's first return from the sea.

It is claimed that as far as rivers are con-

cerned the life of an Atlantic salmon is 8 years. No fish have been taken of a greater age.

DO SALMON FEED IN FRESH WATER?

"AND THOUGH THIS DISCOURSE MAY BE LIABLE TO SOME EXCEPTIONS YET I CANNOT DOUBT BUT THAT MOST READERS MAY RECEIVE SO MUCH PLEASURE OR PROFIT BY IT AS MAY MAKE IT WORTH THE TIME OF THEIR PERUSAL, IF THEY BE NOT TOO GRAVE OR TOO BUSY MEN."

— IZAAK WALTON

Do Salmon Feed in Fresh Water? If Not, Why do They Take the Fly?

THESE are questions that will probably never be answered to the satisfaction of all anglers.

It is claimed that salmon come up a river in prime condition and that many remain there for twelve months and return to the sea without having tasted food. There is no doubt that the fish lose weight while in the river and that their adipose matter is reduced just as is the fat of hibernating fish during the winter.

This is a wise provision of nature, for the salmon are on spawning bent. It is a well-known fact that half-starved rabbits are much more prolific than those that are well fed.

Losing weight may also mean that the food obtainable in the fresh water is not

as plentiful or as nourishing as in the sea, yet they may have the young of other fish, worms, small eels and an abundance of insect life for their daily fare.

It is also said that nothing in the way of partly digested food is ever found in a river salmon, yet fish are known to disgorge during their struggles after being hooked.

Salmon fresh from the sea have been examined in great numbers to decide what they feed on. The staple food seems to be herring, though partly digested sand-eels, whiting, and haddock have been also found.

In the receiving pond at the fish hatchery on the Spey in Scotland it is said that the salmon become intermittent in their feeding with the first frosts of autumn and consume very little food in mid-winter, but feed well during warmer weather.

It was also observed that when the temperature of the water rose above 70° the salmon became listless and in thunder weather they would not rise from the bottom of the pond.

If salmon do not feed why do they rise and take a fly? Why do they pursue all moving objects? Why should a salmon fly be manipulated so as to resemble a moving minnow or insect and why should jungle-cock feathers be the most attractive dressing for a fly if not to attract the light as scales do on a small fish?

One theory is that the salmon enter fresh water for one purpose alone and that they desire to destroy all creatures that may endanger their future young. This would imply much forethought, for the fish enter the Grand Cascapedia in June and do not spawn until November.

Salmon have been known to seize, suck, and eject floating butterflies and other insects. Can it be that they obtain their sustenance by sucking and ejecting their food in fresh water because they cannot digest solids owing to the changes that occur in the stomach and alimentary canal of the fresh run salmon?

Is it not possible that when a salmon first

enters a river he still feels hungry and has not forgotten the feeding habit? He may have a craving for food yet be unable to retain it. This craving may cease after a time yet a rise of water and a change of pool may renew it. The " slink " is supposed to have been in the river for a year, yet he surely shows plenty of " craving."

It is said that salmon are more aggressive than voracious and that it is anger, annoyance, or playfulness that makes them rise to a fly. I have seen them pursue a fly as if in hunger and when they could not be denied.

All anglers will admit that salmon take more readily during the " magic hour " than at any other time. It is quite possible that they may have a preference as to their favorite hour to feed, but is it probable that they are more apt to be annoyed or angry at sundown than at any other hour of the day?

DO THE SALMON ENTER FRESH WATER FOR THE SOLE PURPOSE OF SPAWNING?

I believe that they have another reason. Most fish love warm water and enjoy the sunlight — in fact, love to bask in the sun.

After a winter of heavy snowfall the water is cold and the salmon are late in arriving, but if the snowfall is light the fish arrive early.

The lower waters of the Grand Cascapedia, being fed by numerous mountain brooks, are cold. I found the temperature of the water rose as I went up stream and also that the fish in the upper waters had more life than those I had taken in the cold water below. This lack of energy in fresh run fish may be influenced by the cold water, or the fish may not have become accustomed to the somewhat sudden change from salt to fresh water, for I have no doubt that they are affected as a man from the lowland would be who suddenly found himself in a high altitude.

A very interesting experiment was tried

in Scotland in 1906. "Two grilse were taken from a net in the Bay of Nigg and placed in sea water in a tank at the fish hatchery for the purpose of discovering how long sea lice will remain attached to salmon in fresh water. The density of the water was reduced by allowing fresh water to enter. This operation was regulated so as to represent approximately in time the period of one flood tide. The fish showed *considerable distress* at first, from which it is natural to suppose that the transference to brackish water was too rapid.

"Dating from the time the water was quite fresh the sea lice remained on one fish for four days and on the other for five days." (Calderwood.)

This experiment shows that a fish taken in the upper waters with one or two sea lice attached may have been at least three or four days in passing from the tide.

I believe that, after long winter months in the dark deep sea not very far from the river in which they were spawned, the

DUTHIES POOL

salmon are inspired in the spring by the flow of water from the rivers to return to fresh water.

There is no doubt that the salmon find warm water congenial. The upper waters of the Grand Cascapedia run through stretches of lowland and are not deep. They are well exposed to the rays of the sun and the bottom of the river is covered with gravel and sand.

At Lazy Bogan in the Parson and Forks pools the fish are found in great numbers. Here they are known to spawn, yet they use many other parts of the river for a like purpose. May it not be the warm water and a summer of light and sunshine that they seek?

MODERN SALMON FISHING

"THEY THAT OCCUPY THEMSELVES IN DEEP WATERS SEE THE WONDERFUL WORKS OF GOD."

MODERN SALMON FISHING

BY modern salmon fishing I mean the present-day form of fishing from a canoe on Canadian rivers, for in Scotland, where a man must wade or fish from the bank and is often obliged to cast a very long line, the modern light rods would be of poor service.

In canoe fishing the sport is made easy, for after a fish is hooked the canoe may be moved about and you are quickly placed below your fish, or should the fish take down stream you may follow him on his mad career.

In this form of fishing you seldom have to cast a fly more than twenty-five yards. The length and weight of a rod depend on the distance it is necessary to cast a fly, for after hooking a fish it is a very easy matter to end the struggle in short order if you

understand handling fish, for a fresh run salmon, though active, is not a strong fighting fish for its weight.

Some of the old-time anglers still use the English wooden rods of sixteen feet or more in length, for they maintain that they are superior to the modern light split bamboo grilse rod. Their theory is that the latter is too quick in action and loses many striking fish, which it should not do if the rod is handled with the light hand that it is not possible to employ with a heavy rod. I find the green-heart rod is superior in a strong wind, for it has more power.

The wooden rod, though more brutal when you first give the fish the butt, is not nearly so killing, for every fibre in the bamboo is alive and at work all the time.

The modern split bamboo grilse rods now in use are fourteen feet, more or less, in length and are easy to handle for they are well balanced and weigh from 16 to 24 ounces.

My advice to a beginner using these rods

is to banish the idea that the salmon rod is a two-handed rod, and always to bear in mind the fact that the right arm and the rod are as one. No amount of energy applied to the rod by the left hand will communicate itself to the line. The left hand is employed as a help in holding the rod, in fact is simply a rod-rest.

By grasping the rod firmly with the right hand at the upper end of the cork handle, with the thumb along the rod, the energy of the right arm is communicated to the rod. You cannot use the full spring of the rod unless it is firmly held. This may not be necessary for a short cast but for a long line it is imperative.

After lifting the line from the water for the back cast a flip of the left thumb to the butt at the right moment is all that is necessary, the forward cast being made with the right hand only.

THEORY AND PRACTICE

"THERE IS ONLY ONE THEORY ABOUT ANGLING IN WHICH I HAVE PERFECT CONFIDENCE, AND THIS IS THAT THE TWO WORDS LEAST APPROPRIATE TO ANY STATEMENT ABOUT IT, ARE THE WORDS 'ALWAYS' AND '. EVER.'"

— SIR EDWARD GREY

THEORY AND PRACTICE

WHEN a beginner undertakes to purchase his outfit for salmon fishing he is bewildered by the numerous patterns and sizes of flies that are displayed, and usually supplies himself with a greater number than he can possibly need.

In the olden days so many patterns and sizes of flies were not in use, for the anglers did not fish unless the conditions were favorable. When they did fish it was not material whether the flies were large or small.

Nowadays it has become the custom to fish the same waters every day for a month or more and the tackle experts have endeavored to defeat low water and bad weather conditions by making the tackle and flies more delicate and smaller.

The flies you use depend greatly on what you believe the salmon fly represents.

Whether a salmon fly in play represents an insect or prawn or whether it resembles a minnow or stickleback is a matter of opinion as is also the question as to whether a salmon rises and takes a fly from playfulness or because it annoys him.

The theory that a salmon rises at times from playfulness or annoyance is quite true but in that case he either noses the fly or strikes at it with his tail, which in a measure accounts for many a foul-hooked fish.

I have never seen a fish of any kind take anything in his mouth from playfulness or because it annoyed him. When he does so it is because he thinks it edible and because he wants to eat it.

Kelson says in his book "The Salmon Fly": "I have never yet heard or seen in print any single statement from a first-class salmon angler calculated to support the prevailing idea that salmon fancy our flies represent living things on which they feed and fatten in the sea."

As it is not known where the salmon go

DEWINTON'S POOL

when they leave the mouth of the river, nor where they dwell during the winter months, it is difficult to decide what they feed on. One thing is plain, a full-grown salmon is a square-tailed fish and therefore is a bottom feeder.

It seems certain that salmon have a sense of colour. Experiments have been made in aquariums that prove conclusively that fish can distinguish one colour from another.

Many male fish are of very gaudy colours, supposedly for the purpose of attracting the females, and some fish, the flounders for example, have the power of changing their colours to suit their environment. These things would hardly be if fish were colour blind, yet I hardly believe that salmon are sensitive to slight variations of colour, notwithstanding that flies that are successful on one river may fail when used on another stream.

Some writers have pointed out that the prevailing colour of the bottom of a pool affects the coloration of the fly and that it

is more important than the appearance of the sky.

A dark fly shows better on a dark day, while in bright weather a fly of many colours is more easily seen. The Black Dose is a good fly late in the evening for the same reason that a black flag can more easily be seen on a dark night than a white one.

It is a well-known custom to use large flies on heavy water and small flies on light water.

If you rise a fish and rest him it is usual to change the fly to one of smaller size. On the Grand Cascapedia, however, it is the custom in this case to increase the size of the fly.

Salmon are monocular and often drowsy, for they travel by night and rest in the daytime, so they often do not see the flies that are presented to them.

The patterns and sizes of flies are probably of more importance to the anglers than to the fish. One of our best fishermen has used the Dusty Miller exclusively for many

years and has killed as many if not more fish than anyone on the river.

Last season I fished with a Griswold Gray 4/0 for a few days and did not change it under any circumstances. With it I took 16 salmon that averaged 25 pounds. Had I changed the fly at times or fished with one of smaller size, for the 4/0 was theoretically several sizes too large for the water conditions, I might have taken a few more fish but they probably would have been smaller ones.

The saying " the larger the fly the larger the fish " does not mean that you cannot take a large fish on a small fly, but that you will take fewer of them.

With a stiff rod and a sound cast you can put a great strain on a well-hooked fish, yet there is no doubt that most anglers are afraid of their gut and allow fish to sulk by being too easy with them. More fish are lost by gentle handling than by vigorous treatment.

You can cure a jumping fish of his acro-

batics by lowering the tip of the rod. The weight of the sunken line will keep the fish down.

The time-worn theory that an angler must lower the tip of his rod whenever a salmon jumps seems strange to me, yet it is the general belief that a fish jumps for the purpose of breaking the cast by falling on it or by striking it with his tail.

A salmon seldom gives notice that he is about to jump, so that when he leaves the water he is back in the stream again before you can possibly give him the fancied slack that is supposed to be necessary, especially as in most cases the current intervenes and takes the slack before it reaches the fish. Unless the fish is on a very short line I cannot see how lowering the rod can have any beneficial result.

BIG CURLEY POOL

WEATHER

"HE THAT CONSIDERS THE WIND SHALL NEVER SOW"

WEATHER

THE condition of the water is more important than weather conditions, for salmon have been known to take in all kinds of weather.

At times the weather does not seem to matter; even an east wind will not interfere with the fishing; at other times when wind and weather seem right the fish refuse to rise.

Calm settled weather with a light breeze from the southwest, or what the natives call a "good haying day," seems to afford the best sport.

Fish will not rise when a thunderstorm is brewing but often take readily the moment the storm breaks.

If it is certain that salmon are in the river, it is wise not to allow any condition of the weather to interfere with one's fishing.

When seafishing I have often found the first day of the new moon the best day's fishing during the month. There is a special movement of the waters at that time with very high, strong tides. This may mean more food for the fish or more desire to feed. The new moon affects and increases the activity of all fish.

For seafishing I always select from the new to the full moon, for the reason that fish feed at night, which has some effect on the sport.

On a day following a moon-lit night fish are less hungry than on a day after a dark night. At the time of the new moon there are two flood tides during daylight, which is an advantage, because the first of the flood is the best time of the tide to fish for seafish.

I have found that, providing the weather and water conditions are not too bad, the day of the new moon is usually a good day's salmon fishing on a river.

Why this is would be difficult to explain. It is probable the fish are inspired by a

JOE MARTIN POOL

remembrance of their sea life, or perhaps it may be that the change of the moon having started them up stream, a change of pool may encourage them to take.

ANGLING FOR SALMON WITH A "DOPED" FLY

YOU MAY FOOL SOME FISH SOMETIMES
BUT YOU CANNOT FOOL ALL FISH ALL THE TIME

ANGLING FOR SALMON WITH A "DOPED" FLY

I HAVE for years been a great believer in the acute smelling powers of fish. These powers I have often tested when seafishing.

If on a still day you see the dorsal fin of a leisurely swimming shark on the surface of the ocean, you may always inspire the shark with new life by pouring fresh fish blood into the sea. The shark will at once become alert and begin to hunt the blood-scent until he finally discovers its source.

Then again, when anchored and fishing for bonefish, after having distributed the crab-meat chum, you will often see a school of bonefish hunting the smell of the chum as a pack of hounds hunt the cold scent of a fox, quartering to the right and to the left until they eventually hit the line and find what they are looking for.

Knowing that the trappers in the northern woods lead their prey to their baited traps with "charm oil," I conceived the idea that fish might be enticed in a like manner.

This was difficult in seafishing as the friction caused by trolling a bait through the water destroyed the odor of the "charm-oil," but in fly-fishing I found it quite simple.

My first attempt was when fishing on a salmon river in Canada. The river was low and the water quite clear. I had been fishing over a salmon of fair size that could readily be seen lying on the bottom close to a large stone.

After trying different flies as well as different sizes of flies with no result, I handed the rod to my canoeman, an old and very experienced fisherman, and told him to have a try. He used all his powers of persuasion to entice the fish but with no success.

As he handed me my rod I said: "Now I shall show you how to take that fish."

LOWER JOSH

I anointed the fly he had been fishing with by placing a drop of " charm-oil " on the hackle of the fly. On my second cast I rose, hooked, and landed a 24-pound salmon. This was not chance for it happened on several occasions in a like manner, rising fish that would not look at an " un-doped " fly.

The last day on the river that season found me, after three days of heavy rain, stormbound at a camp up-stream, with all the experts insisting that no fishing was possible.

The water had risen seven inches since eight o'clock in the morning, and three feet since the rain began, and it was still rising at one when we started down-stream.

A heavy fog overhung the river and the water was of the colour and consistency of pea-soup, a combination of every adverse condition possible for sport.

I proposed stopping at a choice pool on the way down-stream, for, I said, I wished to take a few fish home.

I was laughed at by the canoeman but, being more of a fisherman than an angler and having no prejudices, I insisted.

When we reached the pool we found the water very high and running strong. I could hear the small stones rolling along the bottom of the pool, and the partly submerged branches of the bushes on the banks were dancing back and forth as the current swept by.

The canoeman said: " There ain't no fish in this pool; don't you hear the stones a-rolling?" I replied that they must be somewhere about the pool as I saw no salmon on the bank and that fish were not known to climb trees.

The killig was dropped close to the bushes at the edge of the pool and, casting a well " doped " fly down-stream, I rose, hooked, and landed three salmon of 12, 26 and 35 pounds, the only fish taken on the river that day.

The canoe could not be moved about owing to the rapid current and, as I was

fishing with a light grilse rod, it was no easy matter to handle the two heavy fish.

Later on I discovered the following in "The Northwest Coast," a book by James G. Swan published in 1857. Writing of salmon fishing in Shoal Water Bay, Washington Territory, he says: "When the fish were shy or the Indians unsuccessful they would rub their hooks with the root of wild celery which has a very aromatic smell and is believed by the Indians to be very grateful to the salmon and sure to attract them. I have also seen the Indians at Chenook rub the celery root into their nets for the same purpose though I have never tried its effects and have some doubts about its value."

FISHING FOR SALMON WITH A DRY-FLY

AS NO MAN IS BORN AN ARTIST, SO NO MAN IS BORN AN ANGLER.

— IZAAK WALTON

FISHING FOR SALMON WITH A DRY-FLY

FOR several seasons a few experts have been taking salmon with a dry-fly with great success. This requires much skill and can only be accomplished under certain circumstances.

The river must be low and clear and the water temperature above 60°. The water must be clear so that the angler may locate his fish and then place his fly on top of the water and allow it to float down directly over the salmon. This must be done in such a manner that the fish cannot see the gut cast. It is wise for the angler to stand below the fish and cast up-stream at an angle of forty-five degrees.

The flies used are enlarged patterns of trout dry-flies tied on No. 8 hooks. The fly

must float well up on the water and be a real dry-fly. The line and cast are made to float by an application of deer's fat and the fly is oiled with a mixture of equal parts of albolene and kerosene.

The trout cast used should be at least fifteen feet in length and should pull from three to four pounds. The rod used is 10 feet 6 inches long and weighs about 7 ounces.

In this manner it is possible to take salmon in low water from mirrorlike pools where no fish have ever been known to rise to legitimate salmon flies.

The above mentioned methods are those employed by Mr. Edward R. Hewitt, who is a most skillful dry-fly fisherman. In this manner he and five friends took 40 fish in one day from a pool at Kedgewick on the Restigouche River last June. These waters had been fished blank during the six preceding days, although the fish were there in great numbers, but, owing to the low and clear water, they had refused to rise to any known salmon fly.

LAZY BOGAN

Mr. Hewitt's opinion on this subject is: "My recent experience has confirmed me in the opinion that the regular salmon fishing methods in low clear water when it is above 60° is the worst possible way to take salmon. Regular salmon flies under these circumstances are the poorest type that can be used. Any trout dry-fly will do better."

This seems to mean that whatever it is that a salmon fly represents to the eyes of a salmon, it cannot be made to look natural in clear, low, dead water, and that a dry-fly representing an insect does look natural under those circumstances.

If salmon rise from playfulness or annoyance why should they refuse to look at the one, yet rise and take the other?

The angler must be prepared to lose many fish, for a small fly to float well must be tied on a small hook which can have but a weak hold unless it fastens in a tough part of the fish's mouth.

In rapid water it is not necessary to strike a fish if your line is taut, the weight of the

fish and the strength of the water are sufficient to drive the hook home, but to hook a fish that has risen to a floating fly it is necessary to strike. It is impossible to float a dry-fly naturally without the line being slack and a fish cannot be hooked on a slack line.

THE BIG SALMON AT MIDDLE CAMP

"I WAS FOR THAT TIME LIFTED ABOVE EARTH
AND POSSESS'D JOYS NOT PROMISED IN MY BIRTH"

THE BIG SALMON AT MIDDLE CAMP

ALTHOUGH in the month of June it was still spring, and the awakening of nature could be observed on all sides as I walked along the eight miles of river path between New Derreen and Middle Camp.

The light green leaves of the birch and maple trees, and the dark foliage of spruce and pine, made a delightful contrast of colour, and the air was heavy with the scent of the expanding buds of the balsam poplars.

The wood grouse, though quite tame, hustled their broods into the underbrush and the red squirrels chattered and scolded as I passed them by.

Wherever a little sunlight could filter through the thick foliage, the path was fringed by the delicate pink blossoms of the

twin flower (Linnæa borealis) or the white shinleaf (Pyrola elliptica) and in the damp places moss and ferns filled the spaces between the bushes.

There is an acre of cleared land at Middle Camp; here the grass was full of forget-me-nots run wild. These flowers have spread along the river from a small flower bed planted in front of the house some years ago.

When I arrived I found the Camp occupied by two members of the Club who were busy fishing the best water of the Grand Cascapedia River. They proposed to move up-stream the following morning and the fishing was then to be mine for three days.

I sat on the porch all the evening watching the celebrated " 424 " pool which is just in front of the house.

This pool was named by an angler in the dim past who succeeded one afternoon in taking four salmon there, each of which weighed exactly 24 pounds. It is a good pool and affords great sport. On one occasion I was fortunate there also, for I rose

and landed five fish that averaged 25⅗ pounds — 27, 27, 26, 26, 22.

The pool has changed in late years and the lower part has now a mirrorlike surface, for owing to the ice and freshets of early spring it has become filled with stones and rubble.

A point of rocks juts out into the pool from the right bank of the river and just below this reef the water is over three fathoms deep. This deep hole extends for quite a distance up-stream, and its upper edge shelves up gradually into rapid running water.

It is here in this rapid water that the salmon lie when the river is of normal height, but if the water is low, the fish drop back into the deep hole below the rock.

As I sat watching the pool I saw a large fish rise from time to time below the rock, apparently attracted by the foam and air bubbles coming from the swirl of the waters, which was caused by the flow of the strong current against the point of rocks.

It was late in the evening and the sun had gone down behind the mountains casting a heavy shadow across the waters.

I watched hoping to see someone take that rising fish. It was not long before one of my friends appeared coming down stream for the purpose of fishing 424 during the magic hour after sunset.

The river was low and the rough water in the upper part of the pool was fished blank. I then had the satisfaction of watching the angler try the deep hole where the big fish was still making himself seen from time to time.

The angler was fishing with a very long line, yet from where his canoe was anchored it was not possible quite to reach the spot where the fish had shown.

The line was also in my opinion too long to enable the fisherman to manipulate the fly in a way to attract the fish in such water, for the stream whirls around in a circle below the reef where the fish was rising.

We dined at nine o'clock and parted in

POOL 424

the morning, my friends going up-stream to Tracadie after wishing me good luck with the big fish.

I fished the pools above the Camp in the morning and left 424 for the evening's fishing. I had the same trouble my friend had encountered the night before. The long line bothered me and I felt that the motion of the fly was not as it should be, for the weight of the line prevented the proper action I desired. Late in the evening, some distance above where I had seen the big fish rise, I hooked a fine fighting fish that weighed 33 pounds, and was greatly pleased with my success, but shortly after landing from the canoe I saw the giant again, still hunting bubbles. It was too dark by this time to continue to fish with any pleasure.

The following day I fished down-stream and rested 424. I took two salmon in Big Camp Pool, 24 and 21 pounds in weight, and on my return to Middle Camp watched the big fish for half an hour. He was taking his usual exercise, rising about every six

minutes, and I was greatly tempted to try him, but thought it better to wait until the following day.

Having thought the matter over I consulted my canoeman. We came to the conclusion that if we were to entice that fish it must be done with the full sun shining on the pool, as the salmon was lying in very deep water.

I also insisted that I must be so placed that I would not have to cast more than fifteen yards. This I was told was impossible for the water was too deep for the killig to hold.

I asked my man if he thought his killig-rope was all the rope there was in the world and he replied: " No, but it is all I have." I then told him to take the rope from the baggage canoe and tie it on to his canoe rope. When this had been done and the sun was sufficiently high to flood the pool with sunlight we proceeded to fish.

The water was very clear so I used a light No. 3 " Teleraña " cast. These casts have

no knots, which is a great advantage in thin water. I selected a double 4/0 " Griswold Gray " fly for two reasons. In the first place on account of its weight, for I wanted the fly to sink, and in the second place, because I believe the double hook plays on a level keel and resembles a living object, which is an advantage in clear water.

We dropped the killig where the deep water begins and gave the canoe sufficient rope to place me about seventy-five feet from where the salmon had been showing.

I had to " trout-fish," in other words, instead of casting in the usual manner and allowing the stream to carry the fly, owing to the whirlpool action of the water, it had to be placed directly above the fish.

After a few casts the fish rose but I was not satisfied that he had been attracted by the fly so kept on casting, gently working the fly and allowing it to sink.

Suddenly there was a great boil as the salmon took the fly below the surface.

My rod bent and vibrated under the struggles of a well-hooked fish. He soon resented the strain on his liberty and made a bold dash for the opposite side of the pool and jumped clear of the surface, showing his big silver body which glistened in the strong sunlight.

As he fell back into the river he dwelt a second and then forged a long way up-stream taking most of my line. He had travelled far and his instinct no doubt told him in what direction the spawning beds were.

My respect for this salmon had already greatly increased; I therefore played the fish with more than usual care and patience but kept him moving, yet my casting line was so light that I dared not take any liberties.

He stopped and jumped again and then swam in large but decreasing circles around the pool.

As he came into full sight I noticed that he was followed by a great stream of blood

THE BIG SALMON

and appreciated that he had been hooked in the gills.

The time came when the question of how to gaff the fish had to be considered. I cautioned my man to wait until I told him to gaff for I felt that if he missed I would lose the fish.

I played the salmon until there was not much kick left in him and then told my man to gaff.

We found the fish had taken the fly with such gusto that it was imbedded deep down in the gills. He must have lost at least a pound of blood during his death struggles. As it was he weighed 43 pounds, was 49 inches in length and 26½ inches in girth, with a tail spread of 10 inches. Time, 20 minutes.

He was a cock fish in prime condition, whereas the 33-pound salmon I had taken from the same hole was a female. They were no doubt an affianced pair on a journey to their Gretna Green.

A keen observer will notice when he takes

a pair of salmon from the same spot in a pool that it is usually the female that is landed first. It seems to be a question of ladies before gentlemen with the king of river fishes.

A CANADIAN RIVER

BY

THE MARQUESS OF LANSDOWNE, K.G.

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A CANADIAN RIVER

I FIRST heard of the Grand Cascapedia when, many long years ago, I was fishing on the river Tay in company with my old friend Edward Russell, afterwards Lord de Clifford, and Mr. William Oakley, the well-known Master of the Atherstone Hounds. We were, I am sorry to say, "harling," a form of fishing now generally discarded on that splendid river. One morning whilst we were being rowed to and fro across the pool, Edward Russell pulled out of his pocket a letter from the Hon. Charles Ellis, who may, I suppose, be regarded as the pioneer of the Cascapedia, giving an account of the sport which he had been having. I have since seen the full figures of which these were only a portion, but even these were tremendous and took my breath away. There were

days when Ellis, to his own rod, accounted for 15, 16, or 17 fish. I was told long afterwards by his principal boatman that those were days in which "the canoes ran blood." Ellis's description made a great impression on my mind, but the whole affair seemed very far off, and my fishing horizon at the time did not extend beyond our own Tay, my first and last love in the fishing line. An Eastern proverb has it that "the crow of one's own country is better than the Phœnix of a foreign land," and I have probably had more satisfaction in my time out of a red fish killed where Tay and Isla join their streams, than even out of the silvery monsters of the Canadian river.

But events subsequently brought me much closer to the Cascapedia. In 1883 I was offered, and accepted, the Governor-Generalship of Canada. During the weeks which preceded my departure, I received a number of invaluable letters from my predecessor, Lord Lorne, who was good enough to give me many useful hints about men and

INDIAN FALLS RAPIDS

things in the Dominion. The picture which he drew was a most attractive one, and in the foreground a prominent place was occupied by the glorious river which had been placed at the disposal of his Royal Consort, H.R.H. Princess Louise — a river which was, Lord Lorne evidently thought, likely to remain in the hands of the new Governor-General. But just as we were leaving England our high hopes were rudely dashed. In the last letter which Lord Lorne wrote to me he imparted the sad intelligence that the Grand Cascapedia was to be leased by the Quebec Government to a syndicate, and that he was therefore interesting himself in securing for me another river — probably one of those which flow into the Baie des Chaleurs towards the eastern end of the Gaspé Peninsula.

Our disappointment was great. I found, however, on my arrival in Canada, that the transaction with the syndicate had not been consummated, and I set to work at once to retrieve the situation. I was greatly as-

sisted by Sir Hector Langevin, a prominent Quebecker and an influential member of Sir John Macdonald's ministry. Through Sir Hector I put forward the suggestion that if the river, which had been a free gift to my predecessor, was to be let, I should like to be considered as a possible tenant for it. The negotiations proceeded favourably, and as the result I obtained a lease of the river, all but the lower and least interesting pools, at a very moderate rent.

A few words as to the geography of the country through which the Grand Cascapedia flows. It enters the Baie des Chaleurs about half-way between the head and the mouth of the bay, and is called the " Grand " Cascapedia, to distinguish it from a smaller and much inferior river — the " little " Cascapedia — which immediately adjoins it. As it nears the sea at New Richmond it traverses a sparsely inhabited region occupied by farmers who have settled on the alluvial land. Many of these have succeeded in acquiring, with their farms, the

right to erect stake nets. There seemed to be any number of them, and one wondered how any fish could run the gauntlet; but the nets were fortunately very ramshackle affairs, and judging from the number of net-marked fish claimed by the rod in the upper waters, many of them must have smashed their way successfully through the obstructions. These nets have, I believe, been got rid of, and the rod-fishing must benefit greatly thereby.

Lord Lorne used to make his headquarters at a farm known as " Woodmans," in close proximity to some good fishing water, notably a pool known as " the Princess'," so called after the royal lady as a compliment, to whom the Quebec Government had ceded the fishing rights to her husband.

Above this point the river runs through densely wooded and almost untrodden solitudes. About forty miles from the mouth it divides into two branches known as the " Indian " and " Salmon " branches. These lose themselves in the low mountains marked

on the map as the St. Anne's Range, and forming the watershed between the Baie des Chaleurs and the St. Lawrence.

Here and there the stream finds itself suddenly checked: sometimes a huge shingle bed deposited by the spring floods, sometimes a rocky reef on which the current can make no impression, sometimes a so-called "timber jam" — the name which graphically describes an accumulation of driftwood and rubbish of all kinds — heads back the stream and compels it to flow like a mill race through a comparatively narrow exit. It is these contractions which have created the pools — deep troughs in which the fish love to rest on their upward journey to the spawning beds.

The pools, or groups of pools, are usually wide apart. Their anatomy varies greatly, but, as a rule, there is at the head of each of them a rapid, flowing like a small cascade down a precipitous descent. In some cases the water of this rapid may be comparatively smooth, in others it is broken by

jagged reefs of rock or boulders of terrifying aspect. The dexterity with which the men pole their craft up-stream through these obstacles, fighting their way inch by inch, or again guide the canoes on the not less dangerous journey down-stream, is past all belief: they are artists, and to their skill, much more than to the fisherman's, are due the big catches which have made the Cascapedia famous.

The river banks are clothed by a dense forest of spruce and pine, with here and there a sprinkling of birch (yellow and white) and maple, while near the water's edge there is a considerable growth of poplar, mostly the balsam poplar, appropriately so called on account of the fragrance of its leaves when the buds first expand. On a warm evening the air is heavy with the scent of these trees. So dense is the growth that there are very few spots at which it is possible to take a cast off the shore; but at one or two points, generally where a shingle bed adjoins the pool, it is possible for the fisher-

man to leave his boat and fish the stream in his own way standing on *terra firma*. There were two or three places where I used to do this with much success, and greatly to my own satisfaction, but as a rule the *modus operandi* was as follows: The canoe was poled to the head of the pool, a stone anchor attached to a rope of stout manilla hemp was let go, and the rope was paid out gradually, foot by foot, after each cast. When the boat came to the end of its tether the anchor was hauled in and let go again a few yards lower down. In this way the holding parts of the pool could be systematically and thoroughly searched. Much judgment had to be exercised in deciding what water to fish and what to leave alone. The bed of the river was constantly changing. The spring floods undermined the banks, which collapsed, carrying with them the trees which stood nearest to the water's edge, and so old pools were silted up and new pools excavated. A pool might be excellent one season and useless the next. It

used to be my delight and that of my two men, who were as keen as I was, to prospect for new fishing ground, and we were triumphant when we succeeded, as we often did, in extracting a fish from some hitherto untried and uncharted pool.

My observations up to this point have been mainly descriptive and general. It may be convenient that I should pass to narrative and give some account of our own personal experiences.

In the early months of 1884, when the Ottawa Session was drawing towards its close, when the " robins " were beginning to arrive, and the little blue hepaticas to peep out from under the thawing snow, our thoughts began to turn to fishing. The campaign required careful organization. We had decided that we would not be content with a camp at " Woodmans," but that we must have a home of our own in the wilderness higher up the river and remote from the haunts of men. H. A., best of A. D. C.'s and most persevering of fisher-

men, was deputed to spy the land. With him we sent Reid, head carpenter at Government House, a delightful Scotchman, with infinite skill in all matters concerning his trade, and possessing all the shrewdness and resourcefulness of his race. The reports received by letter from our mission were encouraging, and H. A. was given *carte blanche* to select a site on which Reid was to construct the new house. There were only a few weeks to spare, but Reid undertook to have some kind of shelter ready for us in time for the opening of the season. The house was to be of the simplest kind, built entirely of wood, of which an abundant supply could be obtained locally, and we were unhampered by by-laws as to the design of the structure.

The long-awaited day came at last, and on the 12th of June I started with H. A. from Quebec, travelling by the Inter-Colonial Railway to Dalhousie, and passing on our way the Metapedia, where George Stephen (now Lord Mount Stephen) had

THE FALLS

his fishing quarters, and the famous Restigouche, much frequented by wealthy Americans. At Dalhousie we took steamer as far as New Richmond, where we landed; then came a rough drive, which grew rougher and rougher, through a woodland country with here and there the homestead of a small farm. The ground seemed literally covered with wild flowers, and the scenery throughout was bright and attractive. Our first inspection showed how well H. A. and Reid had acquitted themselves of their task. They had chosen a kind of terrace, a good many feet above the level of the river, with a naturally dry soil. The house stood on a bend, so that our view enfiladed the stream, of which we had pleasant glimpses upwards and downwards through the intervening trees. On another terrace, a little way above that on which our house stood, the staff used to pitch their camp, and the trim, bright-coloured tents contrasted delightfully with the dark green of the adjoining forest. Just above our camp were

two famous pools, "the Rock" and "the Ledge," of which we took heavy toll in the years which followed. Exactly opposite New Derreen — this was the name which we gave to our little residence, in honour of another dearly beloved Derreen on the west coast of Ireland — a small stream, little more than a big brook (the Escuminac), added its waters to those of the main river. The Escuminac was much frequented by large sea-trout, but I do not think the salmon ever used it. Below the meeting of the waters was a deep pool, a good deal disturbed by our canoes, but scarcely ever without a fish. Between the house and the pool lay a shingly beach, at the edge of which the boatmen's camp had been established, as well as an ice-house for storing salmon.

New Derreen was constructed with marvellous rapidity. It was a low one-storied building, entirely of wood, with a shingled roof. It contained a mess-room, a sitting-room, two or three small bed-rooms, little more than cubicles, with a kitchen and ser-

vants' quarters at the back. On two sides fronting the river it was provided with a broad verandah, in which we used to spend a great deal of our time.

When we first arrived we depended for our water-supply on water brought up in buckets from the river, but we were able to improve upon this by capturing a small rill on the hillside, a hundred yards or so from the house, and bringing it down in a kind of rough wooden aqueduct carried from tree to tree. This provided us with an unfailing supply of perfectly pure and ice-cold water.

A word on the scenery of the adjoining country. It was densely wooded — there were trees everywhere — but it must be confessed that there was a complete absence of anything which could be described as fine timber. The reason is not far to seek. The more accessible of these so-called " timber limits " are leased to the great mill-owners, and have for many years past been worked over by the lumberers. Every winter lumbering parties push their way farther and

farther into the mountains, singling out and felling the sound sticks; thus it happens that all the more robust and stately trees fall victims to the axe and are converted into " saw logs." If a tree is sound and clean, down it comes, with the result that only the unsound and immature trees survive.

The marketable trees are thrown while the snow is on the ground, and the stems are rolled down the hillside to the nearest stream. When the snow melts and the spring floods come, they are carried automatically down the rivers until they reach the depots, where they are collected behind a floating boom, like sheep in a pen, and remain until such time as they can be dragged on an endless chain to the sawmill, where they are rapidly converted into " deals."

But while the bulk of the logs are thus hurried rapidly to their destination, many stick fast on the sandbanks or in the eddies, where they sail round and round hopelessly, and eventually take anchor. Quite a number of logs are thus intercepted. These are

too valuable to be neglected, and accordingly, after the first raging floods have spent their strength, but before the water has touched its low summer level, parties of " drivers " are sent up the rivers to extricate these lost sheep and expedite their journey to the mills. The driving party is conveyed in several canoes, with a crew of two or three men to each. These men, often half-breed Indians, are equally at home on shore or in the water, and are unrivalled in the dexterous use of pole, paddle, or axe.

The driving gangs work their way down from the head waters in the heart of the mountains, and make it their business to search every nook and corner for lost logs. Each of these is, when found, dislodged from its resting-place and carefully shepherded until it is once again fairly launched upon the current. The work is extremely rough and difficult, and is performed with wondrous skill; but to the salmon fisherman this log-driving campaign, coming as it does when the salmon fishing is at its best, is an

unmitigated nuisance. The " drivers " are, not without reason, suspected of taking toll of the pools as they pass by them. They would be more than human if they did not; nor are they likely to be particular as to their methods, and there is no poacher's art of which they are not past-masters. A light net can easily be stowed away in the canoe, and when the fish are huddled together in the upper pools torch and spear can be used with deadly effect.

I can well remember my first introduction to a timber drive. I was fishing the famous Limestone Pool — one of the best in the lower section of the river — the water was in excellent order, and fish were showing in numbers. I had killed one large salmon, and was fast in another, which was putting up a good fight. I suddenly became aware of something which looked like a huge crocodile sailing down the pool in my direction, and in a few moments I found the floating stem of a large spruce between me and my fish. I dipped the point of my rod and al-

lowed the line to sink as far as it would go, but I soon felt it rasping along the rough surface of the log and a break seemed inevitable. More by chance than skill, the line was successfully manipulated until the great tree-trunk had passed by us, and I was able to resume offensive tactics. The fish was landed, and I was congratulating myself on my good fortune, and intending to recommence operations, when I caught sight in the offing of a second log, followed by a third and yet others in an apparently endless procession. I had never encountered a timber drive before, and now realized too fully what it meant. For the rest of that morning I was completely defeated.

After this digression I ought perhaps to explain that our river was divided into three sections — the Home Beat, of which I have already said something; the Middle Camp, about seven miles farther up the river, where there was a substantially built log-hut used by the lumberers in the winter and by fishermen in the summer season; and the Upper

or Lazy Bogan section, also equipped with a log-hut, which must have been some twenty miles farther. The Middle Camp section contained some magnificent pools, which always yielded fine sport early in the season. After that they became less productive — I cannot help thinking, owing to the interest taking in them by the timber-drivers. The Upper section was wonderful: there were good holding pools above and below the camp; but in order to reach this you had not only to face a long journey up-stream, but to surmount the Indian Rapid, much the most formidable obstacle of the kind on the whole river, owing to its length and the extreme roughness of the water. The ascent of this rapid involved a most arduous, not to say dangerous, piece of poling. I used generally to leave the canoe and follow the trail on the river bank until the top of the rapid was reached. The men were only too glad to be relieved of the necessity of carrying an extra ten stone up the rapid. The latter consideration did not apply to the

downward journey, and I more than once remained in the canoe for this, greatly enjoying the excitement of a descent quite as trying to the nerves as any toboggan slide with which I was ever concerned. There was a good salmon pool just above the rapid, and there was always the chance that a fish hooked in this pool would take the bit between his teeth and insist upon going down; I do not think, however, that any of our party ever had this stirring experience. I remember that on one occasion, as we were dropping carefully down the rapid, each man using the whole of his strength to steady the canoe, we caught sight of a fine new pole which had got fixed between two rocks and been left there by some previous travellers. The temptation was irresistible; our course was checked for a moment, and the coveted weapon snatched as we shot past it, and carried off in triumph.

We used to take it in turns to visit these upper waters, sending up a separate canoe to carry our blankets and stores. This com-

missariat canoe had for its passenger our emergency cook, George Bacon, a caretaker at the Quebec Citadel, whom we used to borrow every year for this purpose. George was a most resourceful person, quite imperturbable and impervious to bad weather. Under the shelter of an extemporised screen, roofed with great slabs of bark, he was able with a fire of wood embers and a Dutch oven to produce out of the scantiest materials savoury messes with a *cachet* all their own. A plump sea-trout broiled on the ashes with a piece of fat pork inside it was one of his and our favourite dishes. "Victor," our cheery little French *chef,* remained in charge of culinary arrangements at New Derreen.

The journey from New Derreen to Lazy Bogan was a severe grind for the men, and indeed seemed long enough even for the passenger, as he sat without much elbow-room on the floor of the canoe. But for me these lovely reaches, with their infinite variety of woodland and river scenery, had an inexpressible charm.

MOOSE IN GRASSY BOGAN

We generally broke the journey half-way at a well-known landing, where, by a smooth sandy beach under the shade of an overhanging tree, an old shack afforded a certain amount of ready-made shelter. Here we camped out for the night. Our sleeping accommodation on these occasions was of the simplest: our blankets were laid on the top of a layer of freshly gathered spruce twigs, carefully laid so as to afford a smooth surface, supple and sweet-scented. On such a couch we slept, as one sleeps in the woods, and dreamt of forty-pounders.

One word as to our mode of fishing. Only the fly was permitted — prawn, minnow, and other baits being absolutely barred. During the early days of the season the fish would take almost any fly, and a good large one was preferable; later, as the river shrunk, they became more fastidious, and we had to wait until the evening and use what we should in Ireland describe as sea-trout flies. All the old standard patterns answered well. One could never

go wrong with "Jock Scott," "Thunder and Lightning," or "Silver Doctor"; but I found some of the sober old Tay Turkey Wings quite as effectual as their more gaudy rivals.

We generally had three or four canoes out. Two men were told off to each, and William Dimmock, "*gardien*" of the river — an excellent fellow, and most skillful and trustworthy in a boat — was in supreme command of the whole flotilla. Of the prowess of these men as navigators I have already spoken. Their skill in the use of the gaff was almost inconceivable; but I am bound to say that the gaff which they used was a most barbarous weapon. It was a pole almost as long as a punt pole, armed with a huge curved iron head shaped something like a shepherd's crook. With these gaffs they would, if allowed, take the most extraordinary liberties; and I have over and over again seen them snatch an only half-played fish in the middle of the roughest water long before he was really ready for

the cleek. Their dexterity at this game more than once suggested to my mind that they had graduated in a fish-spearing school. I am glad to say that after a time I persuaded my own men to use a more civilized weapon, and to possess their souls in patience until I gave them a proper chance of securing the fish. It must be remembered that, owing to the dense growth which clothed the river banks, our fish had in nine cases out of ten to be lifted out of the water and into the boat instead of dragged ashore.

The men were as skillful in the use of the axe as in that of pole and paddle. New Derreen was surrounded by a dense growth of forest, and we used to spend a good deal of our spare time in clearing away the jungle. In those days I was very fond of cutting down trees, and though I never emulated Mr. Gladstone's skill, I was fairly handy with the axe, and rather fancied myself in the *rôle* of a woodman. But these men fairly knocked the conceit out of me. I used sometimes to "take on" a tree in

company with one of them, and I always chose the easy side of the tree, if there was one, for myself; but I was hopelessly left behind, and invariably found my partner well through his share of the work while I was still only half-way through mine. They were, it is true, extravagant of the timber, and used to make a huge gash which would have horrified a Scotch or English forester.

The picture would be incomplete without some account of the natural history of the river. In addition to salmon, it held any quantity of sea-trout. These ran later than the salmon, but by the month of July the river was full of them. They frequented as a rule the thinner water, but they were generally to be found in the salmon pools also. Here they were a great nuisance. They stuck at nothing in the way of a fly. They had tremendous teeth, and after playing one or two of them your fly was ruined. Moreover, the larger fish played very strong, and in spite of attempts to give them short shrift,

splashed about all over the place and effectually disturbed the pool. We caught them up to five pounds weight, and a friend of mine who was on Lord Derby's staff has the outline of a seven-pounder which he captured. I have a photograph of a basket of ten caught by Lord Alexander Russell, and weighing 40 pounds. When there was nothing better to do, we used frequently to go out with light rods and small flies and fill our baskets with these fish. I remember one occasion on which one of my sons and I found that a school of them had run up into a "bogan" (a back-water or creek), in the absolutely still and pellucid water of which we could see them quite plainly as they cruised around. We drove them out unceremoniously into an adjoining run where C. and I caught sixty of them, weighing exactly 30 pounds, in two or three hours.

Of wild animals there were not many. We rarely saw deer, although their tracks were now and then to be found. Now and

again we encountered a bear, particularly on the higher and less frequented reaches. Once when dropping quietly down-stream I suddenly encountered one swimming across the river. My boatmen immediately started in hot pursuit, but the bear won by a short head, gained the shore, and shambled up the mountainside before we could overtake him. Upon the whole it was perhaps fortunate that we failed. An entry in H. A.'s journal, " His Excellency rose a bear," probably refers to this incident. We often caught sight of a mink sneaking quietly along the bank. There were occasional musk-rats, and high up the river, a large beaver dam, the occupants of which I never had the good fortune to set eyes on. Amongst the smaller mammalia was the little ground-hog, a kind of marmot, nearly the size of a rabbit, whose burrows were quite common.

I must not, however, omit from the list of wild animals one which constantly made its presence felt during our wanderings. The

beautiful and, alas! evil-smelling skunk was not uncommon, but I never got to close quarters with him save on one occasion. I had gone up the river to the Lazy Bogan Camp and taken possession of the log-hut which one of us generally occupied on these occasions. It was not long before I found out that the premises were already tenanted. A family of skunks had established themselves under the floor of the hut. I could hear them scratching and scuffling underneath the boards, and I could most unmistakably smell them. It was unpleasant but tolerable, except when something happened to upset the equanimity of the household. They greatly resented, for example, my morning ablutions, which were noisy and involved the splashing of a good deal of cold water, some of which no doubt percolated to the family quarters. They showed their resentment by the liberal use of poison gas, which fairly drove me out of the house; but we got used to one another after a time, and ended by making *bon ménage*. H. A., who

relieved me when I went down, was less fortunate. On his first evening he caught sight of the mother skunk as she left her home through a bolt-hole, which was evidently the ordinary means of ingress and egress. H. A. saw his opportunity, and proceeded to "stop her out." No earth was ever more carefully closed, but the result was deplorable. The young family was disconsolate for the absence of their dam; the lady on her side was inconsolable, and hung about the place all night, making herself extremely objectionable. H. A. had a bad time of it, and took out the stopping next morning. Those who have sat in a stuffy church near a lady wearing a skunk stole or muff will be able to form some idea of his discomfort.

The birds were few, but interesting. As you travelled along the river you constantly came upon a beautiful night heron flapping lazily along the stream. Not infrequently one met with a so-called "fish-hawk" — an osprey of some kind, I think — much inter-

ested in the capture of trout in the shoal water. Then there were partridges, really wood grouse, very tame, and unmolested by us, as we were there during the breeding season. Large kingfishers had their homes in the steep sandbanks, and gave a note not unlike that of their Australian relative, the "laughing jackass." Woodpeckers were common, and their holes were noticeable on the trunks of many of the decayed or partly dead trees. After dark the night-jars made themselves heard; the hurtling sound of their flight as they swooped unseen across some forest clearing was indescribably weird and ghostlike.

In my brief enumeration of the animals which frequented the Cascapedia I see that I have forgotten to mention the insects. These are by no means a negligible quantity. Mosquitoes, black flies, and sand-flies are a formidable triple alliance. I suffered less than most of us, and sand-flies, although maddening, are, I think, not more maddening than Scotch or Irish midges; but to most

of our visitors the flies were a real terror. There were many remedies, some of them worse almost than the disease, notably a horrible brown unguent with which we were expected to smear our faces. Pieces of rag dipped in malodorous essences were not quite so bad. Veils which interfered with one's breathing and clung to one's skin when one was perspiring were, I thought, intolerable. When driven to desperation, I found that the best plan was to light a " smudge " in the canoe. A smudge is a little fire of touchwood which can be kindled in a gluepot, and when fairly set going, supplemented by a little damp moss, so as to produce a dense column of pungent smoke. This the mosquitoes at any rate will not face; and by keeping close to the smudge, and yet not within its fumes, it is possible to elude the enemy; but, as I have said before, I was fortunate, which was more than I could say for all our visitors. One of them, a rather full-blown, well-nourished Britisher, was a sight for gods and men after a fortnight's

CHARLIE VALLEY

experience of Cascapedia insects. I feel pretty sure that newcomers suffer more than those who have already undergone the experience, and it has always seemed to me probable that the human blood, if once it has been inoculated with the mosquito virus, may become comparatively immune afterwards.

Butterflies were plentiful, notably the beautiful swallow-tail. My sons, who like most boys were keen entomologists, once caught a black variety of this species, which they were told by the experts was rare and valuable, but they never got a second.

Of trees I have said something elsewhere. Amongst the shrubs none were more beautiful than the so-called high bush cranberries, a Cornus of some kind, bearing great clusters of scarlet fruit not unlike its Irish relative to be found on most of the Kerry streams. Of small wild flowers there were any number, including a tiny and very beautiful orchid — I believe the most northerly species of its kind. On the beaches and

sand-banks an Œnothera was common and very attractive.

I must not forget the berry-bearing plants, which were numerous, particularly on the slopes where the high forest had been burnt, — cranberries, bear-berries, crow-berries, partridge berries, and so forth. Some of these were most interesting and attractive; the last-named was, I think, a dwarf Gaultheria, creeping along the ground almost like thyme, with its festoons ornamented at intervals by pure white, pearl-like fruits. But I must not omit the edible berries. There were thickets of raspberries in every direction, and nothing could have been more delicious than their fruit. It yielded, when pressed, an admirable syrup, wholly unconnected with raspberry vinegar, for which, even in my school-days, I had no great taste. A wine-glass of this syrup, added to a tumbler of iced water, was a glorious beverage for a thirsty soul. In the open spaces wild strawberries were plentiful, particularly at the edge of the sandy beaches,

and I used often to tramp across these and take advantage of my opportunities while the men poled the canoe up-stream.

The trudge across these beaches was interesting in other ways. It was generally possible to find among the pebbles good specimens of agate and jasper brought down from the volcanic formations of the St. Anne's range. Some of these I had polished and still preserve. As a rule my specimens were of small size, but now and again I encountered, and could not resist carrying off, a large lump, perhaps of ordinary rock with a likely nodule of agate bedded within it. My men, who at first regarded my proceedings as a kind of harmless lunacy, began after a time to look ruefully at me when I returned to the canoe bearing with me such weighty treasures. They finally represented to me respectfully that we were already heavily laden with the spoils of the chase, that our Plimsoll-line was all too low, and that several pounds' weight of precious stones was a wholly uncalled-for handicap.

I had to be content with smaller specimens, surreptitiously smuggled on board in my jacket pockets.

How much or how little ought I to say in these notes as to our own performances in the fishing line? A mere reprint of our journals would be monotonous and unintelligible to an outsider. I may as well, however, give here the summary of our catch during the four seasons. We caught amongst us 1245 salmon, weighing 29,188 pounds, an average of 23½ pounds. Two hundred ten of these fish weighed 30 pounds and over, and the largest weighed 45 pounds. The fishing season was very short, lasting from the second week in June to the end of July, after which time there were other calls to meet, while the river became too low for fishing. It should, perhaps, be explained that our party consisted of the writer and his little staff, assisted now and again by the ladies. Besides these there were occasional visitors, amongst them Sir Lionel Sackville-West, then Minister at Washington, Lord

Alexander Russell, in command at Halifax, Admiral Commerell, and two or three others.

We always did our greatest execution during the first three weeks, when the river was still full of water. After that it fell rapidly to a low summer level, with only occasional freshets anxiously watched for by all of us. Towards the end of the time it became difficult to inveigle a fish into rising. We had to depend mainly upon the evening fishing, and to use quite small flies.

The high average weight of our fish compels attention. We caught scarcely any grilse. I never understood why this was so. Was there an autumn run of grilse? The men had apparently never heard of it. I think we could have collected heavier bags if we had fished all day, but as a general rule we were content with an hour or two in the early morning and another spell when the sun got low. During the intervening hours there was plenty of time for reading and writing, and perhaps for a siesta in the verandah.

The summary gives an idea of the number and size of the fish caught. It may, however, be interesting to single out a few specimen days when exceptional good fortune attended our efforts. H. A. was a born statistician, and kept a journal in which is entered the weight of every fish and the place and date of its capture. From this interesting record I select the items which follow.

During the season of 1884 I find that on the 29th of July I caught in the Upper or Lazy Bogan pools ten fish, weighing 33, 24, 11, 9, 20, 24, 9, 22, 22, and 21 pounds. On the following day and on the same water, but higher up, Lord Alexander Russell killed eight fish, weighing 18, 18, 18, 10, 10, 3, 24, and 23 pounds. This 3-pounder was much the smallest specimen which we collected.

In the season of 1885, on the 23rd of June, I am credited with nine fish, weighing 26, 23, 25, 10, 27½, 29, 30, 38, and 23½ pounds. This catch was made when I was on my way down from the Middle Camp. I

caught one fish before starting. Seven were caught in a pool known as "Little Picot," which we had not intended to fish, but it looked well, and there was a nice beach from which it could be commanded. Casting from this beach, I caught the fish, and then made the best of my way home. I went out for a few minutes in the evening and tried the pool opposite the house, which yielded the ninth fish.

On the following day I had eight in the home pools, weighing 24, 31, 25, 22, 25, 27, 33½, and 22 pounds.

I see that I pleaded guilty to having lost six fish on each of these two days.

On the 24th, Mr. Herbert Smith had five, weighing 40, 25, 28, 25, and 30 pounds, and on the 27th the same fisherman caught two, weighing 25 and 45 pounds.

On the 3rd July H. A. landed eight fish, weighing 19½, 28½, 26, 11, 20½, 29, 22, and 21½ pounds, and lost five.

On the 20th July Lord Alexander Russell fished the Lazy Bogan pools and caught

ten fish weighing 209 pounds. On the following day he had four weighing 119 pounds. On the 22nd he had twelve weighing 245 pounds, on the 23rd five weighing 93 pounds, and on the 24th nine weighing 197 pounds.

From the records of 1886 I extract the following:

June 16th. The Hon. John Baring, now Lord Revelstoke, five fish, weighing 38½, 31½, 32½, 30½, and 22 pounds, a goodly average. On the following day Mr. Baring caught seven, weighing 32½, 25, 25½, 20, 18½, 19, and 25 pounds.

On the 22nd June I had rather an exceptional piece of good fortune. I had caught a nice 25-pounder before breakfast close to the Home Camp. In the afternoon I travelled up to the Middle Camp, reaching my destination about 5 o'clock. After tea, between 6 P.M. and 8 P.M., I caught four fish, the only ones that I moved; they weighed 39, 33, 31, and 33 pounds. I have an idea that for an evening's fishing this would be difficult to beat.

On the 5th July, fishing the Home pools, I caught seven, weighing 28, 28, 22, 28, 8, 33, and 25 pounds, and lost three. On the 10th July I caught in the same pools four fish, weighing 35, 28, 25, and 38 pounds, and next day two, weighing 29½ and 30 pounds.

On the 15th July Lord Alexander Russell caught nine fish, weighing 32, 30, 30, 25, 20½, 23, 28, 29½, and 9½ pounds.

Passing to the season of 1887, when we did not reach the river until nearly the end of June, I note that on my first day, the 27th, I had eight fish, weighing 22, 22, 28, 33, 24, 27, 25, and 23 pounds, on the Home pools; and next day, on the same pools, eight, weighing 18, 25, 22, 23, 28, 38, 37, and 18 pounds.

The staff also did well, H. S. securing on the 27th, on Limestone, nine fish, weighing 32½, 28, 21, 23, 11, 33, 23, 26, and 21 pounds; while on June 28th H. A., on Jam Rapids, had ten, weighing 27½, 24, 13½, 26, 8, 27, 20, 28, 27½, and 24½ pounds.

On July 1st, fishing the Middle Camp

pools, I had eight fish: weights, 30, 24, 22, 24, 30, 24½, 34½, and 29 pounds.

On the 13th and 14th July, on the Lazy Bogan pools, I had good sport, catching on each of those days ten fish; the twenty averaged 24½ pounds. H. S., who was with me, on the same two days caught nine and eleven, which he followed up by eight on the 16th, and the same number on the 18th of the month.

Of fish weighing 40 pounds and more we caught one in 1884, three in 1885, two in 1886, and one in 1887; but we had a large number of fish which approached, but did not reach, the 40-pound standard. The season of 1884 yielded 36 fish, that of 1885, 54 fish, that of 1886, 65 fish, and that of 1887, 55 fish over 30 pounds.

If there were good days and brilliant successes, there were also disappointments and tragedies. The memory of some of these is indelibly impressed on my mind. I can still visualise the huge fish which I hooked in "Jack the Sailor," at the very beginning of

LAZY BOGAN

my Cascapedia days, which, after running out the greater part of my line, leaped into the air and then parted company. If ever I saw a 50-pounder it was that fish. I remember another which played me for an interminable time in the thin water below the Ledge Pool. I could do nothing with him; he lay like a log in mid-stream and refused obstinately to come near us. At last we poled our way out to him and got quite close, but the hold parted at the last moment. The fish was so tired that Noel very nearly had him with the gaff after I had lost him.

But there is one tragedy in particular of which the details are unforgettable. One day in 1884 I was fishing at Lazy Bogan just below the camp. Towards dusk I got fast in what was evidently a very strong fish. I had noticed that fish hooked late in the evening always showed an uncontrollable desire to run violently down-stream. This fish was no exception to the rule. I hung hard on to him, but he took us down and ever down until we found ourselves at a point

where the stream, which here flowed at a great pace, divided into several channels, separated by narrow spits of shingle. Across one of these channels a dead birch, brought down by the flood, had become fixed. My fish elected to rush down the birch-tree channel just as the men had committed the canoe to the next. Things looked bad, but this obstacle was overcome: canoe and fish both navigated their channels without mishap — the boughs of the birch-tree sloped down-stream, and the line passed over them without getting caught. We met our fish again below the narrow island of shingle which had parted us, after which he renewed his headlong course. Finally, having found a resting-place to his liking, he went to ground in a deep hole from which I tried in vain to dislodge him: in spite of pressure applied from above and below his place of refuge, he was immovable. I tried to hand-line him up from the bottom, but it became clear that he had literally taken root in the mass of brushwood and débris which

lay half-buried at the bottom in the silt. We came to the conclusion that I was now fast, not in the fish but in the rubbish, and we set to work to get loose, and if possible, to save the line and cast. After probing the depths with his gaff, Barter (who was then my attendant) at last got hold of the right bough, and the line suddenly became slack. I proceeded to reel up with a sad heart, when suddenly to my amazement I felt a quiver of life, and realized that my fish was still there. The rough usage to which he had been subjected had taken all the vice out of him. He came in like a lamb, and I felt that I could tow him wherever I liked. There was a little back-water a few yards off, with a beautiful gravelly slope on one side — an ideal landing-place. I think I could have beached my fish unaided. I got out of the canoe and drew him gently and steadily into the shoal water. He was virtually mine. But at this moment Barter was seized by an access of dementia: it was the call of the wild, the instinct of the old

salmon-spearing blood. Before I could stop him he made a frantic lunge at the fish with his ten-foot gaff. That was the end; he missed the fish, and cut my line in two. Our long journey up-stream, past the narrows which we had so successfully negotiated, was a melancholy affair. I never got a sight of the fish, and do not know how big he was. I comforted myself with the reflection that he may have been foul-hooked and not so very large after all.

Here is the story of what might have been a tragedy, although the adventure had its comical side. H. A. was fishing the Limestone Pool; he hooked a good fish, and his bow man proceeded as usual to haul in the stone anchor. The rope broke, the anchor went to the bottom, and the man fell out of the canoe on the other side. The canoe upset, and H. A. and his two men found themselves struggling in the water. They could none of them swim, but were fortunately close to the bank, and succeeded in scrambling out. They were a long way

from home, with a trackless jungle on either bank, and without the means of conveyance by water. They set out down-stream in search of the missing craft. Two or three hundred yards below there was a shingly bar running more than half-way across the river. The swamped canoe had stranded upon this and was soon righted and afloat again. One of the paddles was still on board, the other was found not far off. As the search proceeded, they came upon H. A.'s rod, which had also grounded on the shingle. H. A. proceeded to get in the line, and found to his joy that the fish was still attached to it. It was landed without difficulty, and the party paddled down to camp drenched to the skin, but triumphant. I must not omit the sequel of this story. H. A. had a few days before received a large and expensive consignment of salmon-flies from a well-known tackle-shop in London. He had most unfortunately taken out with him a large round tin box, the magazine in which the whole of this valuable tackle was enshrined.

The tin box went overboard with other odds and ends, and was written off as lost. About a week afterwards a lad came up to our camp from a farm on one of the lower pools with a fine, though not quite complete, collection of salmon-flies, which had been found in the meshes of one of the stake-nets.

One more adventure. I have seen it said that "all fishermen are liars," and on the strength of the story that I am going to tell I shall perhaps qualify for enrolment in the fraternity. It all happened in "Jack the Sailor," which was, I think, upon the whole, my favourite pool. It was not too far from home; it always held fish, generally large fish; and it was extremely dangerous, which perhaps added to its attractions. At this point the river flows between low cliffs surmounted by a thick growth of trees. Ribs of jagged rock run out into its depths, and could be plainly seen at low water, twenty or thirty feet below the surface. Here and there great water-logged snags had become firmly lodged among them. The whole

arrangement was a standing invitation to a hooked fish to cut himself free. The wonder was, not that one lost fish, but that fish were ever landed amid such a maze of entanglements. One fish out of "Jack the Sailor" was to my mind worth three caught in any other pool. I used often, when going down the river late in the evening, to stop for a couple of casts in "Jack," although I knew that another canoe must have been there not long before, and I more than once succeeded in stealing a fish out of it just as it was becoming dark.

Bitter experience had taught me that there was one way, and one way only, to avoid disaster. If you allowed your fish to explore the fastnesses of "Jack the Sailor" you would most certainly lose him, and probably your tackle also. The only chance was to prevent such exploration at any cost, to get him tight by the head, and to hang hard on to him, even at the risk of a break. With a stiff rod and sound tackle you can put a terrific strain on a firmly hooked salmon.

I am, by the way, convinced that more fish are lost by over-tender handling than by more vigorous methods.

One day in 1885 I was applying my principles to a very stout fish, keeping him near the canoe in the clear water, and checking him whenever he tried to take soundings. After he had made one or two strong drives and been met with an equally strong application of the butt, he suddenly yielded to the pressure, shot up to the surface within two or three feet of us, threw himself high out of the water, and landed almost in Noel's arms between the thwarts of the canoe. He would certainly have jumped overboard again had not Noel driven the gaff firmly into his side.

All this happened on a Saturday. On Sundays there used to be a great gathering of the boatmen at Woodman's Farm. On the following Monday I asked Noel whether he had said anything to his friends about our fish. He replied that he had told Mr. Woodman all about it. "What," I asked,

"did Mr. Woodman say?" "He said," replied Noel, "for me to come in and have a glass of whisky," and with this oracular utterance my story must end.

Many years after I had said good-by to the Cascapedia, I happened on a warm June evening to be passing through the back garden of a London house, in which half a dozen grimy trees were struggling into leaf amid a dingy and depressing environment. Suddenly something took me away from London and back to Canada and to the river. What was it? There was a reason. One of the trees was a poplar, a balsam poplar; there were the sticky buds and the aromatic and intoxicating scent. For a moment I seemed to see the old sights, to smell the old smells, to hear the old sounds — the rush of the rapids, the perfume of the forest, the clinking of the iron-shod poles, as the canoe forged its way upwards to the Middle Camp or to Lazy Bogan.

THE PACIFIC SALMON

THE PACIFIC SALMON

THE salmon of the Pacific is a genus that is very close to the Atlantic salmon, differing chiefly in the increased number of anal rays and in the fact that *they spawn but once and all die after spawning.*

When in the sea the salmon are supposed to dwell 20 to 40 miles off the mouth of their native river and return to spawn, being attracted by the cold river water.

There are five species of salmon in the Pacific.

The largest species is the Quinnat, chinook, tyee or king salmon (*Oncorhynchus tschawytscha*) which is found from Monterey Bay to northern Alaska and also in the Siberian rivers. This fish frequents large rivers and is taken in the Yukon at Dawson which is 1,500 miles from the sea.

They are said to attain a weight of over 100 pounds. They will average 25 pounds, many fish weighing over 40 pounds. The largest I have seen weighed 72 pounds.

It has never been explained why there is a heavy run of fish every fourth year. This heavy run occurs the year following leap year. For example, in 1921 and again in 1925.

The fishermen claim that these fish remain in the sea for four years, and those that weigh about 20 pounds have returned sooner and are called springfish.

The very large fish, those over 50 pounds, may have remained away for more than four years or perhaps have been more fortunate in obtaining good food.

The Blueback or Sockeye salmon (*O. nerka*) forms the greater part of the canned salmon of the world and is found from southern Oregon to Alaska. This fish also has a heavy quadrennial run. They enter the Columbia and Fraser rivers in great numbers and journey over 1,000 miles from

the sea. Their maximum weight is 15 pounds.

The Silver or Coho salmon (*O. kisutch*) resembles the Atlantic salmon for it has a brilliant silvery skin. It is the gamest fish of the lot and usually weighs from 3 to 8 pounds, although individuals have been taken that weighed over 20 pounds. They are found from Monterey Bay northward and also along the Asiatic coast, being common in Japan.

The Humpback salmon (*O. gorbuscha*) reaches a weight of from 3 to 6 pounds and is the smallest of the genus. It is in very great abundance in the rivers of Alaska. The run of this fish is heavier in the odd than in the even years. This fish, unlike the other species, will not take a spoon or lure of any kind.

The Dog salmon (*O. keta*) is very abundant but the least valuable as a food fish. It is found from the Sacramento northward and reaches a weight of 10 to 12 pounds.

The Steelhead (*Salmo gairdneri*) al-

though called a salmon by the fisherman is a trout. This is a very game fish that takes a fly. Its maximum weight is said to be 20 pounds, although the usual run is from 2 to 6 pounds. In California the taking of this species is restricted to hook and line fishing.

The number of salmon in the Pacific is beyond all belief. Taking the year 1909 as an example we find the catch was very heavy owing to the quadrennial heavy run of sock-eye and chinook and the biennial run of humpback salmon.

The total catch of California was 12,141,-937 pounds and of Alaska 175,934,000 pounds.

The total catch of the whole coast including British Columbia in 1909 is said to have been 365,336,482 pounds of salmon and steelhead trout, which returned the fishermen $7,224,024, and in addition there were the millions of fish that died after spawning.

SALMON FISHING AT CAMPBELL RIVER

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THE Campbell River rises among the snow-capped mountains in the interior of Vancouver Island, B. C., about 270 miles north of Victoria, and flows southeast into Discovery Strait. About four miles from its mouth it tumbles over high falls into a canyon, and this is where the great "tyee" (chief) salmon go to spawn. Not only the tyee use these spawning-beds, but the humpback and the beautiful coho salmon are also there in great numbers.

I journeyed six days to see if the reports of the wonderful fishing at the mouth of the Campbell River were true, and found the sport far better than I had hoped. One reason for the extraordinary fishing that season was the fact that the Government,

by heavy fines, had succeeded in driving away the Japanese poachers, who for several years openly defied the law, and poached the salmon with every known device from dynamite to illegal meshed nets.

Discovery Strait is a stretch of salt water, an arm of the Pacific ocean, which separates Vancouver and Valdez Islands, and is about two and one-half miles wide. If it were not for the great current and strong tides that flow through the straits it would remind one of a Swiss lake, for you are surrounded by hills beautifully wooded with splendid fir-trees, and snow mountains show plainly in the distance.

The best fishing is along the shore of Vancouver Island, a stretch of water one mile below and half a mile above the sand-bar at the mouth of the river. The current is so swift that it is almost impossible to fish except at the change of the tide or at half-tide. As the mode of fishing is trolling with a spoon, it is impossible to make enough headway when the tide is running strong,

especially about the time of the full moon. The natives fish with hand-lines, with heavy lead and small silver or copper spoons, the lead being about twenty feet away from the spoon. It is most interesting to watch the Indians standing in dugout canoes handling the fish, gently playing it, and finally clubbing it on the head, when the fish, having fought its battle, has succumbed. It is said that these fish return to the river to spawn after having left it four years before, and that, after spawning, they all perish. This seems hard to believe — hard to believe that a fish can grow to the size and acquire the strength that these fish do in so short a time; for I saw one giant, taken on a hand-line, that weighed 72 pounds at the cannery some hours after it was taken, and I killed a fish myself that weighed 60 pounds.

These fish came from the north, and are found off Kitmat, some four hundred miles north of Campbell River, early in May, but do not appear at the latter place before August 1.

Most of the amateur fishermen who were enjoying the sport when I was there were sportsmen from England, on their way to Cassiar after big game, who had stopped en route in the hope of taking a fifty-pound salmon. They had every possible kind of rod and tackle, most of it better adapted to fly-fishing than to sea-fishing, for this is sea-fishing pure and simple. I fished with a light striped-bass rod, a Cuttyhunk line, and with three ounces of lead, seven feet from the spoon. The lead is necessary, owing to the strong current, and does not seem to bother the fish, for they are very quick and have great strength. If you give them the butt after their first grand rush, they will generally jump three feet into the air. If you fish with a fly-rod, they never show, and are apt to take all your line before you can stop them. The light-tackle fishermen spend most of their time repairing outfits and buying new lines and spoons.

The fish feed on small bright herring, which abound, and any bright spoon seems

SALMON, TOTAL WEIGHT, 212 POUNDS

TYEE SALMON, 60 POUNDS

Length 47 inches, girth 32 inches

$$\frac{Girth^2 \times length}{800} = weight$$

to attract them when feeding. The coho salmon, which runs from five to ten pounds in weight, are at times very plentiful. The professional fishermen take as many as seventy in a day's fishing, and the cannery on Valdez Island pays ten cents apiece for the fish. For the tyee salmon they allow one cent a pound. I saw two coho salmon taken with a fly in the open sea, fish of about eight pounds in weight; but as the fish are moving you might cast all day without rising one.

I took the following fish in fifteen days:

August 1: 60 pounds, 48 pounds, 46 pounds.

August 2: 49½ pounds, 51½ pounds, 15 pounds, 50 pounds, 46 pounds.

August 3: 40 pounds.

August 4: 45 pounds, 45 pounds, 42 pounds, 42 pounds, 40 pounds, 46 pounds, 47 pounds, 12 pounds.

August 5: 45 pounds, 35 pounds, 30 pounds, 42 pounds.

August 6: 42 pounds, 44 pounds, 35 pounds, 21 pounds.

August 7: 46 pounds, 40½ pounds, 41 pounds, 17 pounds.

August 8: 20 pounds, 44 pounds.

August 9: 43 pounds, 38 pounds.

August 11: 32 pounds, 46 pounds, 47 pounds, 48 pounds.

August 10: 29 pounds, 32 pounds, 35 pounds.

August 12: 53 pounds, 41 pounds, 41 pounds, 44½ pounds, 33 pounds.

August 13: 53 pounds. (High wind and rough water.)

August 14: ———

August 15: 51½ pounds, 40 pounds, 40 pounds, 37 pounds, 36 pounds, 35 pounds, 34 pounds.

Forty-seven tyee, average, 43 pounds; 5 spring fish, about 20 pounds each; 45 coho salmon. Total weight, 2179 pounds.

DR. JORDAN'S OPINION

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DOCTOR DAVID STARR JORDAN, of the University of California, recently addressed an informal gathering of scientists at La Jolla, California, pointing out certain interesting biological phenomenon in connection with salmon. Science, it seems, does not know where salmon spend their three to five years of life in the ocean. Some of them are supposed to stay fairly near the shores, where they first enter the sea from the river. But no one knows definitely.

The doctor propounded a biological puzzle: How do red salmon know which rivers or streams have lakes at their headwaters? It is an established fact that red salmon will not ascend any other kind of stream for spawning, although king salmon and some other varieties will. In this con-

nection he told of a certain professor who stood on a bridge across a stream, one branch of which came from a region without a lake, while the other came from a region with a lake. The professor observed king salmon going up both branches of the river, but, after hours of watching, he had seen red salmon invariably choosing the branch with a lake.

A recent conclusion of this same professor is that salmon are " geared " to the river to which they are native. He reached this conclusion by long and patient observation. Some streams ascended by salmon are very short, while others, like the Yukon and the Columbia, are very long. The former river is fifteen hundred miles long, and the latter is a thousand miles long. Salmon from a short river lack the qualities of endurance which are necessary for the weary journey to the headwaters of a long river, often requiring the entire summer, while salmon from a long river lack the characteristics necessary to make use of the conditions in a short river.

Apparently this is one of the fundamental reasons why salmon hatcheries are not successful; the fry cannot be liberated except in streams to which they are geared.

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